crisis" are rife. There are powerful vested interests opposed to rocking the world's various boats: religious authority, political power, institutional position, ever expanding trade, and established priorities for health care. The taboo attached to this topic, say King *et al* "seems necessary for relieving our anxiety, for preserving our comforting short-term view of the world, for the present relative stability of North-South relations, and for maintaining the current paradigm in public health."[6] Perhaps it also reflects a reasonable fear, by some agencies, that years of painstaking work persuading leaders in developing countries to support activities that reduce fertility will be undermined and even rejected as an intrusion by rich Western nations?

The alleged taboo is not the only impediment to people accepting the need for action. Controversy surrounds the central concepts and phrases. Many demographers and economists reject, or query, the concept of "entrapment." The related term "carrying capacity" is loosely used.[12 14] For ecosystems with ecologically defined boundaries it is meaningful, but for human populations in an increasingly interconnected world it is less so. The Netherlands can only grow enough food for a third of its population, but it easily purchases the rest.

Humans have always modified the carrying capacity of their environment. Hence, any single static number for the human carrying capacity ignores the unpredictable consequences of human innovation.[12 15] Sixty years ago the population of the Machakos district in Kenya had exceeded its carrying capacity as productive land became increasingly degraded. Subsequently, the population has increased sixfold while, concurrently, soil restoration and reafforestation have occurred and agricultural output has risen.[16] In contrast, in highland Ethiopia quantitative modelling studies based on recent experiences show that severe soil erosion increases rapidly once the size of a rural population exceeds the region's capacity to support it.[17]

These, clearly, are extraordinarily difficult issues. Scientists must now grapple, across disciplines, with these complex notions of carrying capacity and demographic entrapment and with understanding further the culturally influenced determinants of fertility. The topic of fertility control is laced with emotion, ideology, national, ethnic and gender sensitivities, and religious implacability. International non-governmental organisations, less encumbered by political baggage, must help the search for sensitive, noncoercive, and effective methods to reduce fertility.

The population issue, combined with rising consumerism, continues to cast a long shadow over human futures. King *et al* urge us to steel ourselves for taboo free discussion of radical solutions. They remind us that, in the closed system that is our biosphere, the exercise of individual "rights" (of whatever persuasion) cannot long ignore ecological constraints.

A J McMICHAEL
Professor of epidemiology

Department of Epidemiology and Population Sciences,
London School of Hygiene and Tropical Medicine,
London WC1E 7HT

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Death undefeated

From medicine to medicalisation to systematisation

Back in 1974, when I wrote *Medical Nemesis*, I could speak about the "medicalisation" of death.[1] The western art of dying—an outcome of Europe's Christianisation—had ceded to guaranteed terminal care. I coined the term in reference to a medical establishment that had assumed the functions of a dominant church and whose symbolic effects included the shaping of people's beliefs and perceptions, needs and claims. What professionals saw as the ultimate therapeutic failure, laymen feared as limited financial coverage. It was then plausible to use the term "iatrogenesis" not just for symptomatic side effects suffered by individuals in their encounter with physicians, drugs, or hospitals, but also for the superstitious reshaping of society and culture through the internalisation of medicine's myths.

Two decades later, I would have to write a very different book. Before, I used medicine to illustrate a general feature of major institutions at midcentury—their counterproductive action in making the goals for which they were designed impossible to attain for the majority of their clients. For example, schools impeded learning; transportation contrived to make feet redundant; communications warped conversation. I analysed the medical enterprise as a post-Christian liturgy that instilled a keen fear of pain, disability, and death in its devotees. Today, various institutions, especially those purporting to provide social services, have lost their identity; systems for education and medicine are interlocked with military, economic, and other systems.

At midcentury, many people's most intense involvement with medical care began when they were about to die. From my own experience, I know what unreal expectations were inspired by useless medical rituals and routines, and how difficult medicalisation made the task of family, friends, or chaplain: to arouse the dying person's willingness to accept the inevitable, to find strength in the beauty of memories, and to take leave of this world.

In Galenic tradition, physicians were trained to respect Lethe's beckoning and to allow people to step onto Charon's ferry; they learned to recognise the facies hippocratica, the

symptoms showing that their patient had moved into the atrium of death. At this threshold nature itself broke the healing contract, and the healer had to acknowledge his limits. At such a moment, withdrawal was the proper service a physician rendered to his patient's good death.

The white-garbed doctor struggling with death does not appear in graphic art until late in the 19th century. Instruction on how to discriminate between the curable and incurable did not disappear from American medical schools until after the Flexner Report of 1910.[2] While doctors concentrated on the fight against death, the patient became a residual object, then a technological construct. Today, one asks: is there still an autonomous self capable of the act of dying?

In 1995, I cannot blame medicalisation for this development. As with music television, new technologies change the nature of acting; in the medical system, they totally usurped the ancient Dance of Death. The constellation within which the mass of academic training, instruments, laboratories, and hospitals could be isolated as medicine has faded. Food, drugs, genes, stress, age, air, AIDS, or anomie are no longer medical but systemic issues. Aetiology no longer refers to a specific cause, but to a hierarchy of feedback loops. The patient is now a "life" that emerges from a gene pool into an ecology. Formerly, people asked for the diagnosis of a disease, and they expected treatment to relieve it; today, lives are managed, and optimisation rules. Biomanagement now includes industrial fluor emissions, domestic garbage collection, the war on drugs, and free distribution of needles.

In 1978 the term, immune system, was first used.[3] That same year Microsoft launched its operating system, DOS. Five years later, even popular science writing spoke of health as the state of a biological system and of death as life's irretrievable breakdown. Since then, most of the resources that were added to health care in fact financed a takeover of medical components by global management systems. Systems analysis fostered new notions and practices in health care, but also surreptitiously affected people's perception of themselves. Increasingly people now speak of their health as "the state of my system." System analytical concepts have altered our self perception.

Medicalisation led people to see themselves as two legged bundles of diagnoses. It did not, however, disembody self perception; today, systems thinking does. People now watch the curve of their vital parameters. As they approach the end of their days, they have long experienced themselves as "lives"; they have been under professional management—some since well before birth.

Formerly, one spoke of the last hour in the active voice: "I hope to die a good death." One could also use the verb intransitively: "I know I shall die." One can prepare for dying, one can acquire a good stance. Late, but not too late, I have seen people—even under intensive care—revive their memories of the art of dying, as it had been traditional in their families. After the second world war, law and the churches supported doctors in the medicalisation of death. Collaboration with the quixotic heroism of medical strategies was presented to both patient and family as a duty. On occasion, religious and moral authorities still spoke of a right to refuse extraordinary means. But this qualification only buttressed the general obligation to obey the dictates of the doctor. Agony came to be seen as the effort of a medical team, and death as the team's frustration by an ultimate act of consumer resistance. The medicalisation of social arrangements and cultural norms, however, did not achieve the intense disembodiment of self perception achieved by lifelong concern with self diagnosis, self regulation, and anxiously prognostic self treatment.

The ability to die one's own death depends on the depth of one's embodiment. Medicalisation spelled dependence, not disembodiment. Disembodied people are those who now think of themselves as lives in managed states—like the RAM drive on their personal computer. Lives do not die; they break down. You can prepare to die—as a Stoic, Epicurean, or Christian. But the breakdown of life cannot be imagined as a forthcoming intransitive action. The end of life can only be postponed. And for many, this managed postponement has been lifelong; at death, it is an uninterrupted memory. They know that life began when their mother observed a fetus on the ultrasound screen. A life, they were then an object of environmental, educational, and biomedical health policies. Today, it is not sophisticated terminal treatment but lifelong training in misplaced concreteness that is the major obstacle to a bittersweet acceptance of our precarious existence and subsequent readiness to prepare for our own death.

When this situation is widespread, one can justifiably speak of an amortal society. There are no dead around; only the memory of lives that are not there. The ordinary person suffers from the inability to die. In an amortal society, the ability to die—that is, the ability to live—no longer depends on culture but on friendship. The old Mediterranean norm—that a wise person needs to acquire and treasure an amicus mortis, one who tells you the bitter truth and stays with you to the inexorable end—calls for revival. And I see no compelling reason why one who practises medicine could not also be a friend—even today.

IVAN ILLICH

D28 203 Bremen,
Germany

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Penalties of shifting weight

A small, transient gain over Christmas is no threat to health

The general view seems to be that most adults maintain a more or less steady weight. This belief is based on epidemiological data from large population groups. In reality people fluctuate in their weight, but the average of the group is constant because the gainers and losers tend to cancel out. For example, in a study in Finland the average weight gain over five years among 6504 men was 600 g, and among 6165 women (excluding those who were pregnant during the study) it was even less—only 60 g.[1] However, a sixth of the men and slightly fewer of the women had gained more than 5 kg between examinations, while a tenth of the men and an eighth of the women had had similar losses of weight. Rapid gains and losses were not confined to the obese; they occurred in thin people, too.

Many studies in Britain[2] and the United States[3] have shown that, compared with those of stable weight, people with a very